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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,447	07/06/2000	Guo-Qiang Wang	91436-265	6335

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EXAMINER

MILLS, DONALD L

ART UNIT PAPER NUMBER

2662

DATE MAILED: 08/05/2004

[Handwritten number 8]

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/611,447

Applicant(s)

WANG ET AL.

Examiner

Donald L Mills

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5, 9, 10, 18, 19, 22 and 23 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-8, 11-17, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 11-15 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility.

Regarding claims 11-15, the claims merely recite a data structure, for example, *a type field, length field, and a value field...* (See claim 12, lines 4-8.) The data structure is a mere arrangement of data, independent of physical data. The data structure does not represent a process, machine, manufacture, or composition of matter. The claim merely manipulates an abstract idea without producing a “useful, concrete and tangible result;” therefore, claims 12-15 are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2662

4. Claims 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Boivie (US 6,577,418 B1).

Regarding claim 6, Boivie discloses *encoding a representation of traffic characteristics of an interface between one of said optical label switching routers in said first data communication network and a node in a second network so as to comprise a type field, a length field and a value field, where the value field comprises an attribute of said second network*

(Referring to Figure 5B, the Optical IP Switch implements an LDP for a fiber which links the optical switch with a node, by definition the LDP contains a structure that uses a Type, Length, and Value field. By definition, the value field can contain other TLVs or information that is to be interpreted as specified by the type field. See column 4, lines 66-67 and column 5, lines 1-3.)

Regarding claim 7, Boivie discloses *the attribute comprising an indication of service type of the second network* (Referring to Figure 5B, the Optical IP Switch implements an LDP, which by definition contains a structure that uses a Type, Length, and Value field inherently comprising an indication of IP service of the communicated network. See column 4, lines 66-67 and column 5, lines 1-3.)

Regarding claim 8, Boivie discloses *the attribute comprising an indication of a control protocol of the second network* (Referring to Figure 5B, the Optical IP Switch implements an LDP, which by definition contains a structure that uses a Type, Length, and Value field inherently comprising an indication of IP service of the communicated network. See column 4, lines 66-67 and column 5, lines 1-3.)

Art Unit: 2662

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 11-13, 16, 17, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boivie (US 6,577,418 B1) in view of Jamoussi (Internet Draft, "Constraint-Based LSP Setup Using LDP").

Regarding claims 1, 11, 16, and 20, Boivie discloses *assigning an optical label to a channel group* (Referring to Figure 5B, the Optical IP Switch implements an LDP, which is inherently associated to a group of channels. See column 4, lines 66-67 and column 5, lines 1-3,) *the channel group using one of the fiber optic links and comprising a plurality of channels* (Referring to Figure 5A, switch 50 connects to two "bundles" of optical fibers 52, which inherently transport a group of channels. See column 6, lines 12-15.) And, *encoding the optical label so as to comprise a type field, a length field and a value field* (Referring to Figure 5B, the Optical IP Switch implements an LDP, which by definition contains a structure that uses a Type, Length, and Value field. By definition, the value field can contain other TLVs or information that is to be interpreted as specified by the type field. See column 4, lines 66-67 and column 5, lines 1-3.)

Boivie does not disclose *where the value field comprises a label component and where the label component comprises an indication of currently available bandwidth on each of the plurality of channels.*

Jamoussi teaches a method of constraint based routing (CR) in MPLS, which defines TLV encoding that includes a type, length, and value field. Wherein, the value field contains five Traffic Parameters including data rates (See page 15, section 4.3.) Jamoussi further teaches that one may want to use CR-LSP to assign certain bandwidth or other Service Class characteristics to the LSP (Page 6, section 2.1.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the constraint based routing of Jamoussi in the Optical IP Switch of Boivie. One of ordinary skill in the art at the time the invention was made would have been motivated to do so in order to assign certain bandwidth characteristics to the LSP for QoS.

Regarding claims 2 as explained above in the rejection statement of claim 1, Boivie and Jamoussi disclose all the claim limitations of claim 1 (parent claim).

Boivie does not disclose an *indication of currently available bandwidth that identifies said one of said fiber optic links and a wavelength on said one of said fiber optic links.*

Jamoussi teaches a method of constraint based routing (CR) in MPLS, which defines TLV encoding that includes a type, length, and value field. Wherein, the value field contains five Traffic Parameters including data rates (See page 15, section 4.3.) Jamoussi further teaches that one may want to use CR-LSP to assign certain bandwidth or other Service Class characteristics to the LSP (Page 6, section 2.1.) Boivie teaches an optical IP switch which implements an LDP with route table destinations corresponding to different wavelengths on different fibers (See column 6, lines 6-10.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the constraint based routing of Jamoussi in the Optical IP Switch of

Art Unit: 2662

Boivie. One of ordinary skill in the art at the time the invention was made would have been motivated to do so in order to assign certain bandwidth characteristics to the LSP for QoS.

Regarding claims 12, 17, and 21, Boivie discloses *a type field; a length field; and a value field (Claim 12)/encode a representation of characteristics of traffic over an interface between a node in a service network and said optical label switching router so as to comprise a type field, a length field and a value field (Claim 17 and 21)* (Referring to Figure 5B, the Optical IP Switch implements an LDP, which by definition contains a structure that uses a Type, Length, and Value field. By definition, the value field can contain other TLVs or information that is to be interpreted as specified by the type field. See column 4, lines 66-67 and column 5, lines 1-3.)

Boivie does not disclose *where said value field comprises an attribute and where said attribute comprises an indication of a service type of said service network.*

Jamoussi teaches a method of constraint based routing (CR) in MPLS, which defines TLV encoding that includes a type, length, and value field. Wherein, the value field contains five Traffic Parameters including data rates (See page 15, section 4.3.) Jamoussi further teaches that one may want to use CR-LSP to assign certain bandwidth or other Service Class characteristics to the LSP (Page 6, section 2.1.) Boivie teaches an optical IP switch which implements an LDP with route table destinations corresponding to different wavelengths on different fibers (See column 6, lines 6-10.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the constraint based routing of Jamoussi in the Optical IP Switch of Boivie. One of ordinary skill in the art at the time the invention was made would have been motivated to do so in order to assign certain bandwidth characteristics to the LSP for QoS.

Regarding claim 13, Boivie discloses *a type field; a length field; and a value field* (Referring to Figure 5B, the Optical IP Switch implements an LDP, which by definition contains a structure that uses a Type, Length, and Value field. By definition, the value field can contain other TLVs or information that is to be interpreted as specified by the type field. See column 4, lines 66-67 and column 5, lines 1-3.)

Boivie does not disclose *where said value field comprises an attribute and where said attribute comprises an indication of a control protocol of said service network.*

Jamoussi teaches a method of constraint based routing (CR) in MPLS, which defines TLV encoding that includes a type, length, and value field. Wherein, the value field contains five Traffic Parameters including data rates (See page 15, section 4.3.) Jamoussi further teaches that one may want to use CR-LSP to assign certain bandwidth or other Service Class characteristics to the LSP (Page 6, section 2.1.) Boivie teaches an optical IP switch which implements an LDP with route table destinations corresponding to different wavelengths on different fibers (See column 6, lines 6-10.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the constraint based routing of Jamoussi in the Optical IP Switch of Boivie. One of ordinary skill in the art at the time the invention was made would have been motivated to do so in order to assign certain bandwidth characteristics to the LSP for QoS.

Allowable Subject Matter

7. Claims 3-5, 9, 10, 18, 19, 22, and 23 are allowed.

Response to Arguments

8. Applicant's arguments filed May 31, 2004 have been fully considered but they are not persuasive.

Rejection Under 35 USC § 101

On page 9 of the remarks, regarding claims 11-15, in response to applicant's arguments, the recitation "one or more computer memories collectively containing..." has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Rejection Under 35 USC § 102

On page 9 of the remarks, regarding claim 6, the Applicant argues Boivie does not disclose "encoding a representation of traffic characteristics of an interface." The Examiner respectfully disagrees. Boivie discloses an Optical IP Switch implements an LDP for a fiber, interface, which links the optical switch with a node (See column 4, lines 66-67 and column 5, lines 1-3.) Therefore, Boivie discloses "encoding a representation of traffic characteristics of an interface."

Rejection Under 35 USC § 103

On page 10 of the remarks, regarding claims 1, 11, 16, and 20, Applicant argues neither Boivie nor Jamoussi teach "an indication of currently available bandwidth on each of the

Art Unit: 2662

plurality of channels.” The Examiner respectfully disagrees. Jamoussi teaches a method of constraint based routing (CR) in MPLS, which defines TLV encoding that includes a type, length, and value field. Wherein, the value field contains five Traffic Parameters including data rates (See page 15, section 4.3.) Jamoussi further teaches that one may want to use CR-LSP to assign certain bandwidth (currently available) or other Service Class characteristics to the LSP (Page 6, section 2.1.) Boivie discloses an Optical IP Switch that implements an LDP, which is associated to a group of channels for routing (See column 4, lines 66-67 and column 5, lines 1-3.) It would have been obvious to one of ordinary skill in the art to implement the CR-LSP of Jamoussi in the optical switching system of Boivie. One of ordinary skill in the art at the time the invention was made would have been motivated to do so in order to assign certain bandwidth characteristics to the LSP for QoS for a fiber. Therefore, Boivie and Jamoussi teach “an indication of currently available bandwidth on each of the plurality of channels.”

On page 11 of the remarks, regarding claims 12, 17, and 21, Applicant argues neither Boivie nor Jamoussi teach “an indication of service type.” The Examiner respectfully disagrees. Jamoussi teaches a method of constraint based routing (CR) in MPLS, which defines TLV encoding that includes a type, length, and value field. Wherein, the value field contains five Traffic Parameters including data rates (See page 15, section 4.3.) Jamoussi further teaches that one may want to use CR-LSP to assign certain bandwidth or other Service Class characteristics (indication of service type) to the LSP (Page 6, section 2.1.) Therefore, Jamoussi teaches “an indication of service type.”

On page 11 of the remarks, regarding claim 13, Applicant argues neither Boivie nor Jamoussi teach “an indication of a control protocol.” The Examiner respectfully disagrees.

Art Unit: 2662

Jamoussi teaches a method of constraint based routing (CR) in MPLS, which defines TLV encoding that includes a type, length, and value field. Wherein, the value field contains five Traffic Parameters including data rates (See page 15, section 4.3.) Jamoussi further teaches that one may want to use CR-LSP to assign certain bandwidth or other Service Class characteristics (indication of control protocol) to the LSP (Page 6, section 2.1.) Therefore, Jamoussi teaches “an indication of control protocol.”

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 703-305-7869. The examiner can normally be reached on 8:00 AM to 4:30 PM.

Art Unit: 2662


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills



August 2, 2004



JOHN PEZZLO
PRIMARY EXAMINER